

- 1 -

SEQUENCE LISTING

<110> Pharmacia AB

<120> Screening methods

<130> 00244

<140>

<141>

<160> 3

<170> PatentIn Ver. 2.1

<210> 1

<211> 460

<212> DNA

<213> Mus musculus

<300>

<308> GenBank / AA028416

<309> 1996-09-16

<400> 1

```

gccatggcgt tggggctgca ggcgctgagg tcgaacaccg agctgcggaa ggagaagtcg 60
cgggaccgcc cgcagccggc gcacgaggag acggaggtgc tgtaccagct ggcgcacact 120
ctgccctttg cgcgcggcgt cacaccntnc tggacaaggc ctccatcatg cgcctcacia 180
tcagctacct gcgcatgacc gcctctgcgc acagantgga aaaaggggga gagccactgg 240
acgcctgcta cctgaaggcc ctggagggtt tcgtcatggt actcaccgcc gagggagaca 300
tggtttacct gtcggaaaat gtcagcaagc acctgggcct cagtcagtgg acctctgttc 360
ctcctccctg atacataacc ccactcctgg taccaatttc tctctggagc tcattggaca 420
cagtatcttt gattttatca tccctgtgac caagaggaa 460

```

<210> 2

<211> 1100

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (19)..(942)

<400> 2

```

gaattcggca cgaggggcc atg gcg ttg ggg ctg cag cgc gtg agg tcg aac 51
                        Met Ala Leu Gly Leu Gln Arg Val Arg Ser Asn
                          1                      5                      10

acc gag ctg cgg aag gag aag tcg cgg gac gcg gcc cgc agc cgg cgc 99
Thr Glu Leu Arg Lys Glu Lys Ser Arg Asp Ala Ala Arg Ser Arg Arg
                        15                      20                      25

agc cag gag acg gag gtg ctg tac cag ctg gcg cac act ctg ccc ttt 147
Ser Gln Glu Thr Glu Val Leu Tyr Gln Leu Ala His Thr Leu Pro Phe
                        30                      35                      40

gcg cgc ggc gtc agc gcg cac ctg gac aag gcc tcc atc atg cgc ctc 195
Ala Arg Gly Val Ser Ala His Leu Asp Lys Ala Ser Ile Met Arg Leu
                        45                      50                      55

```

T06290.T629000

General Information															
Author	John W. Smith														
Title	Study of the Effects of Temperature on the Growth of Bacteria														
Year	1985														
Journal	Journal of Microbiology														
Volume	123														
Issue	4														
Pages	567-578														
<p>Abstract</p> <p>The effect of temperature on the growth of <i>Escherichia coli</i> was studied. The growth rate was measured at various temperatures ranging from 10°C to 45°C. The results show that the optimal temperature for growth is 37°C, where the growth rate is highest. At lower temperatures, the growth rate decreases significantly, and at higher temperatures, it also decreases, indicating a narrow range of optimal temperatures for this bacterium.</p>															
<p>Keywords</p> <p>Bacteria, Growth, Temperature, <i>Escherichia coli</i>, Optimal temperature, Growth rate.</p>															
<p>Introduction</p> <p>The growth of bacteria is highly dependent on environmental conditions, particularly temperature. Understanding the relationship between temperature and bacterial growth is crucial for various applications, including food safety, medicine, and environmental science. This study aims to determine the optimal temperature for the growth of <i>Escherichia coli</i>, a common bacterium found in the human gut and various environments.</p>															
<p>Materials and Methods</p> <p>Media and Inoculum: The growth medium used was a nutrient-rich broth. The inoculum was prepared by suspending a known amount of <i>E. coli</i> cells in the medium.</p> <p>Incubation: The inoculated medium was incubated at different temperatures: 10°C, 20°C, 30°C, 37°C, 42°C, and 45°C. The incubation period was 24 hours.</p> <p>Measurement of Growth: The growth was measured by optical density (OD) using a spectrophotometer. The OD was recorded at regular intervals during the incubation period.</p>															
<p>Results</p> <p>The results of the experiment are summarized in the following table:</p> <table border="1"> <thead> <tr> <th>Temperature (°C)</th> <th>Growth Rate (OD/hour)</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>0.02</td> </tr> <tr> <td>20</td> <td>0.05</td> </tr> <tr> <td>30</td> <td>0.15</td> </tr> <tr> <td>37</td> <td>0.25</td> </tr> <tr> <td>42</td> <td>0.10</td> </tr> <tr> <td>45</td> <td>0.05</td> </tr> </tbody> </table> <p>The graph below illustrates the relationship between temperature and growth rate.</p> <p>The graph shows that the growth rate of <i>E. coli</i> is lowest at 10°C and increases as the temperature rises to 37°C, where it reaches its maximum. Beyond 37°C, the growth rate decreases sharply, indicating that 37°C is the optimal temperature for the growth of this bacterium.</p>		Temperature (°C)	Growth Rate (OD/hour)	10	0.02	20	0.05	30	0.15	37	0.25	42	0.10	45	0.05
Temperature (°C)	Growth Rate (OD/hour)														
10	0.02														
20	0.05														
30	0.15														
37	0.25														
42	0.10														
45	0.05														
<p>Conclusion</p> <p>The study demonstrates that the optimal temperature for the growth of <i>Escherichia coli</i> is 37°C. This finding is consistent with the known physiology of this bacterium, which is a mesophile. The results have implications for the control of bacterial growth in various settings, such as food preservation and medical treatments.</p>															
<p>Acknowledgments</p> <p>The author wishes to thank the following individuals for their assistance and support during the course of this study:</p> <ul style="list-style-type: none"> Dr. Jane Doe, Department of Microbiology, University of XYZ. Mr. John Doe, Laboratory Assistant, University of XYZ. 															
<p>References</p> <ul style="list-style-type: none"> Smith, J. W. (1985). Study of the Effects of Temperature on the Growth of Bacteria. <i>Journal of Microbiology</i>, 123(4), 567-578. Doe, J. (1980). The Effect of Temperature on Bacterial Growth. <i>Microbiology Review</i>, 45(2), 123-135. Johnson, A. B. (1982). Optimal Growth Conditions for <i>Escherichia coli</i>. <i>Journal of Bacteriology</i>, 150(3), 789-795. 															

- 3 -

ccagctatcc ttagcccaga aaccacacaaa tgtctccaaa accaccataa agacctctcc 1022

ttgttaggca ccagagaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1082

aaaaaaaaacat gcggccgc 1100

<210> 3

<211> 307

<212> PRT

<213> Mus musculus

<400> 3

Met Ala Leu Gly Leu Gln Arg Val Arg Ser Asn Thr Glu Leu Arg Lys
 1 5 10 15
 Glu Lys Ser Arg Asp Ala Ala Arg Ser Arg Arg Ser Gln Glu Thr Glu
 20 25 30
 Val Leu Tyr Gln Leu Ala His Thr Leu Pro Phe Ala Arg Gly Val Ser
 35 40 45
 Ala His Leu Asp Lys Ala Ser Ile Met Arg Leu Thr Ile Ser Tyr Leu
 50 55 60
 Arg Met His Arg Leu Cys Ala Ala Gly Gly Lys Arg Gly Arg Ala Thr
 65 70 75 80
 Gly Arg Leu Leu Pro Glu Gly Pro Gly Gly Phe Arg His Gly Thr His
 85 90 95
 Arg Arg Gly Arg His Gly Leu Pro Val Gly Lys Cys Gln Gln Ala Pro
 100 105 110
 Gly Pro Gln Ser Val Asp Leu Cys Ser Ser Ser Leu Ile His Asn Pro
 115 120 125
 Thr Pro Gly Thr Asn Phe Ser Leu Glu Leu Ile Gly His Ser Ile Phe
 130 135 140
 Asp Phe Ile His Pro Cys Asp Gln Glu Glu Leu Gln Asp Ala Leu Thr
 145 150 155 160
 Pro Arg Pro Asn Leu Ser Lys Lys Lys Leu Glu Ala Pro Thr Glu Arg
 165 170 175
 His Phe Ser Leu Arg Met Lys Ser Thr Leu Thr Ser Arg Gly Arg Thr
 180 185 190
 Leu Asn Leu Lys Ala Ala Thr Trp Lys Val Leu His Cys Ser Gly His
 195 200 205
 Met Arg Ala Tyr Lys Pro Pro Ala Gln Thr Ser Pro Ala Gly Ser Pro
 210 215 220
 Arg Ser Glu Pro Pro Leu Gln Cys Leu Val Leu Ile Cys Glu Ala Ile
 225 230 235 240
 Pro Gln Leu Pro Phe His Asp Gly Ala Thr Leu Gly Leu Pro Gln Glu
 245 250 255
 Lys Thr Pro Ile Ser Thr Leu Phe Thr Pro Leu Trp Lys Ala Leu Leu
 260 265 270
 Cys Leu Val Lys Arg Trp Pro Val Gln Val Leu Gln Gly Lys Gly Thr
 275 280 285
 Glu Ser Ser Leu Pro Ser Trp Val Leu Trp Ala Leu Asn Arg Lys Asn
 290 295 300
 Cys Pro Gly
 305

09896791.052903